

DETACHABLE PERSONAL COMPUTER

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 The present invention relates to personal computers and, more particularly, to a detachable personal computer formed of a protective panel, a detachable tablet PC, and a detachable keyboard.

2. Description of Related Art

10 Following fast development of information products, the outer appearance designs of information products are required to be thinner, shorter, and smaller to fit limited table top space.

 The housing of the mainframe of a conventional vertical table top computer occupies too much table top space, and thus is not suitable for use on a desk. A tablet PC is compact, requiring less table top space. However,
15 it is not convenient to use a tablet PC on the table. Further, a tablet PC is not practical for keyboard input.

 Therefore, it is desirable to provide a detachable personal computer that eliminates the aforesaid drawbacks.

20 SUMMARY OF THE INVENTION

 The present invention provides a detachable personal computer, which is the combination of a tablet PC, a protective panel, a support arm, and a keyboard.

 The present invention also provides a detachable personal

computer, which has means to adjustably support the tablet PC in one of a series of tilted positions.

The detachable personal computer of the present invention is comprised of a protective panel, a support arm, a keyboard, and a tablet PC.

5 The protective panel comprises a base, a first extension and a second extension respectively extended from the base, a keyboard mounting opening defined between the first extension and the second extension, at least one first flexible retainer and at least one second flexible retainer, and a receiving recess located on the base. The support arm is coupled to the
10 receiving recess and movable in and out of the receiving recess, having a bottom side pivoted to one side of the receiving recess by a pivot and a top side. The keyboard is movably coupled to the keyboard mounting opening of the protective panel. The tablet PC is detachably coupled to the protective panel, having a front side, a back side, a plurality of peripheral
15 sides, and an engagement structure formed in the back side and adapted to receive the top side of the support arm.

The tablet PC can be used independently, or attached to the protective panel for use with the keyboard. Further, the keyboard can be received inside the keyboard mounting opening of the protective panel, and
20 the tablet PC can be closely attached to the protective panel and secured in the received position by the first and second flexible retainers after the support arm has been received in the receiving recess of the protective panel. By means of the engagement structure, the tablet PC can be supported on the support arm and held above the protective panel in one of a series of

tilted positions.

Other objects, advantages, and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of a detachable personal computer according to the present invention;

FIG. 2 is an assembly view of FIG. 1;

10 FIG. 3 is a schematic drawing of the present invention, showing the tilting angle adjusting action of the tablet PC; and

FIG. 4 is an elevational view of the present invention, showing the received status of the detachable personal computer.

15 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, a detachable personal computer in accordance with the preferred embodiment of the present invention is shown comprised of a protective panel 10, a support arm 20, a keyboard 30, and a tablet PC 40.

20 The protective panel 10 comprises a base 11, a first extension 12, a second extension 13, a keyboard mounting opening 14, a first flexible retainer 15, and two second flexible retainers 16. The base 11 has a receiving recess 17. The first flexible retainer 15 is located on the base 11. The two second flexible retainers 16 are respectively located on the first

extension **12** and the second extension **13**. The keyboard mounting opening **14** is defined between the first extension **12** and the second extension **13**.

The support arm **20** is movably coupled to the receiving recess **17** of the base **11** of the protective panel **10**. The support arm **20** has a top side **21** and a bottom side. The bottom side **22** of the support arm **20** is pivotally fastened to the receiving recess **17** of the base **11** of the protective panel **10** by a pivot **23**.

The thickness of the keyboard **30** is approximately equal to the thickness of the protective panel **10**. The keyboard **30** is movably coupled to the keyboard mounting opening **14** in the base **11** of the protective panel **10**, forming the protective panel **10** a rectangular plate.

The tablet PC **40** is detachably coupled to the protective panel **10**, having a front side **41**, a back side **42**, a plurality of peripheral sides **43**, and an engagement structure **44** at the back side **42**.

The independent operation of the tablet PC **40** is of the known techniques. No further detailed description is necessary in this regard. The other features of the present invention are outlined hereinafter with reference to FIGS. 1~4. The keyboard **30** has two coupling grooves **31** at two sides. The protective panel **10** has a first sliding rail **18** and a second sliding rail **19** respectively located on the first extension **12** and the second extension **13** at two sides of the keyboard mounting opening **14**. By means of coupling the coupling grooves **31** to the sliding rails **18** and **19**, the keyboard **30** is coupled to the protective panel **10**. When coupled, the keyboard **30** can be moved in and out of the keyboard mounting opening **14**.

Through the protective panel **10**, the keyboard **30** and the tablet PC **40** are coupled together for convenient use.

Referring to FIGS. 2 and 3 again, one peripheral side **43** of the tablet PC **40** is fastened to the first flexible retainer **15**, and the top side **21** of the support arm **20** is forced into engagement with the engagement structure **44** of the tablet PC **40** to support the tablet PC **40** on the protective panel **10** in a tilted position. According to this embodiment, the engagement structure **44** of the tablet PC **40** is a rack so that the support arm **20** can engage the rack **44** in one of a series of positions to support the tablet PC **40** in any one of a series of tilted positions.

When receiving the detachable personal computer, as shown in FIGS. 1 and 4, the keyboard **30** can be pushed into the inside of the keyboard mounting opening **14** in the protective panel **10**, and then the support arm **20** is disengaged from the engagement structure **44** of the tablet PC **40** and then the support arm **20** is fitted in the receiving recess **17** of the base **11** of the protective panel **10**. The flexible retainers **15** and **16** of the protective panel **10** are used to secure the received tablet PC **40** in position.

A prototype of the detachable personal computer has been constructed with the features of FIGS. 1~4. The detachable personal computer functions smoothly to provide all of the features discussed earlier.

Although a particular embodiment of the present invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope

of the invention. Accordingly, the invention is not to be limited except as by the appended claims.